

**Amendments to the Claims:**

Please replace all prior claims versions and listings with the following:

**Listing of Claims:**

1. **(withdrawn)** A method of making a strong alumina cement comprising:
  - a. providing a batch of components comprising a transition alumina, water, a cellulose ether binder, and a pH-modifying component;
  - b. mixing the batch components to form a form a substantially plasticized mass; and,
  - c. heating the plasticized mass under moisture-retaining conditions at a temperature and for a time at least sufficient to obtain hydroxylation of the transition alumina.
2. **(withdrawn)** The method of claim 1 wherein the transition alumina is selected from the group consisting of  $\gamma$ -, $\eta$ -,  $\delta$ -,  $\chi$ -,  $\theta$ -,  $\rho$ -, and  $\kappa$ -aluminas.
3. **(withdrawn)** The method of claim 2 wherein the transition alumina is  $\gamma$  (gamma)-alumina.
4. **(withdrawn)** The method of claim 1 wherein the cellulose ether binder is selected from the group consisting of methylcellulose, hydroxypropyl methylcellulose, hydroxyethylcellulose, hydroxypropylcellulose, methylhydroxyethyl and methylhydroxypropyl cellulose ethers.
5. **(withdrawn)** The method of claim 1 wherein the pH-modifying component is an acid.
6. **(withdrawn)** The method of claim 5 wherein the acid is selected from the group consisting of acetic acid, formic acid, nitric acid and hydrochloric acid.
7. **(withdrawn)** The method of claim 6 wherein the acid is acetic acid.
8. **(withdrawn)** The method of claim 1 wherein the pH-modifying component is a base.
9. **(withdrawn)** The method of claim 8 wherein the base is  $\text{NH}_4\text{OH}$ .
10. **(withdrawn)** The method of claim 1 wherein mixing the batch components includes:
  - a. dry blending the transition alumina and cellulosic temporary binder;
  - b. combining the water and pH-modifying components to form a liquid mixture; and,

- c. mixing the dry blend with the liquid mixture in a mix-muller to obtain a substantially plasticized mass.
- 11. **(withdrawn)** The method of claim 1 wherein the heating step is carried out at a temperature in the range of 50-100°C for a time in the range of 1-300 hours.
  - 12. **(withdrawn)** The method of claim 1 further comprising shaping the substantially plasticized mass into a green preform following the heating step.
  - 13. **(withdrawn)** The method of claim 12 wherein the step of forming the green preform is carried out by extrusion.
  - 14. **(withdrawn)** The method of claim 13 wherein the green preform is a honeycomb.
  - 15. **(withdrawn)** The method of claim 12 wherein the green preform is a pellet-type structure selected from the group consisting of pellets, beads, and the like.
  - 16. **(original)** A method for making a ceramic honeycomb comprising the steps of:
    - a. providing a batch of components comprising a transition alumina, water, a cellulose ether binder, and an acid;
    - b. mixing the batch components to form a substantially plasticized mass;
    - c. heat-treating the substantially plasticized mass under moisture-retaining conditions at a temperature and for a time at least sufficient to obtain hydroxylation of the transition alumina;
    - d. extruding the heat-treated mass into a green honeycomb preform; and,
    - e. drying and calcining the green honeycomb preform.
  - 17. **(original)** The method of claim 16 wherein the transition alumina is selected from the group consisting of  $\gamma$ -,  $\eta$ -,  $\delta$ -,  $\chi$ -,  $\theta$ -,  $\rho$ -, and  $\kappa$ -aluminas.
  - 18. **(original)** The method of claim 17 wherein the cellulose ether binder is selected from the group consisting of methylcellulose, hydroxypropyl methylcellulose, hydroxyethylcellulose, hydroxypropylcellulose, methylhydroxyethyl and methylhydroxypropyl cellulose ethers.
  - 19. **(original)** The method of claim 19 wherein the acid is selected from the group consisting of acetic acid, formic acid, nitric acid and hydrochloric acid.

Appl. No.: 10/723,373  
Response Dated: 5/01/06  
Reply to Office Action of: 12/29/2005

20.     **(original)** The method of claim 19 wherein the acid is acetic acid.
21.     **(original)** The method of claim 16 wherein the heating step is carried out at a temperature in the range of 50-100°C for a time in the range of 1-200 hours.